

Applicants respectfully request entry of the amendment.

Respectfully submitted,

Date: December 23, 2002

By: Pamela A. Docherty
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(216) 622-8416

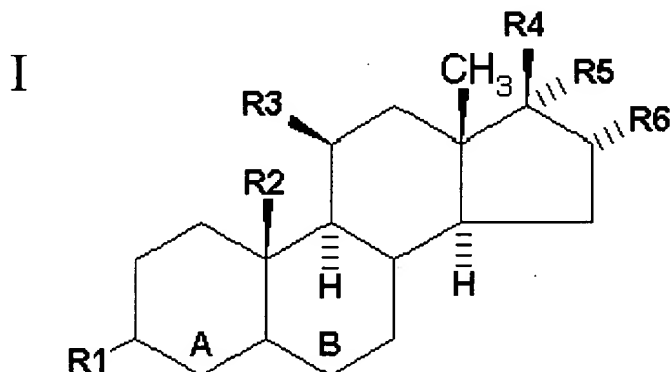
VERSION WITH MARKINGS SHOWING CHANGES MADE

IN THE CLAIMS

1. (Amended) A method of inducing production of isoflavones in a plant comprising:

[a)] applying to the surface of at least part of a plant capable of producing an isoflavone, a biologically effective amount of a composition comprising a nuclear receptor ligand, wherein said nuclear receptor ligand is [selected from the group consisting of:

(1) a steroid having structure I or structure II as below,



Wherein rings A, B have the same or different degrees of saturation, wherein

R1 = OH or O,

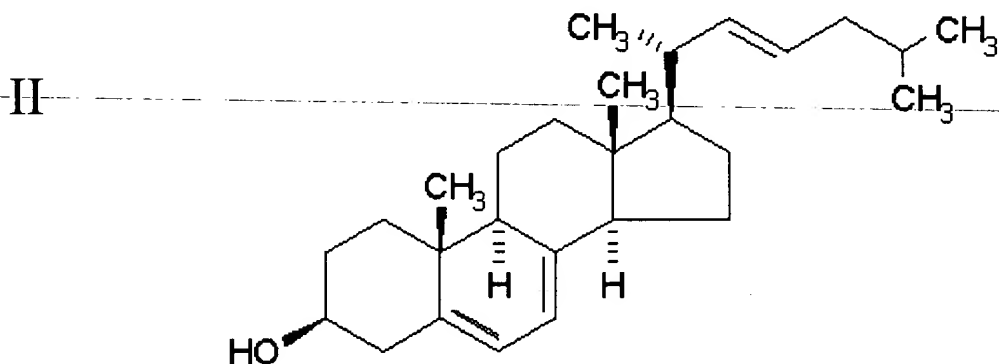
R2 = H or CH₃,

R3 = O, OH, or H,

R4 = O, OH, H, CO₂H, C(O)CH₂OH, or C(O)CH₃,

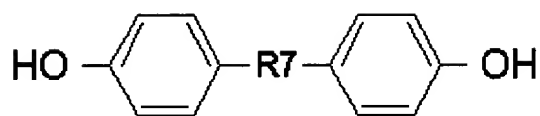
R5 = OH or H, and

R6 = CH₃, OH or H;



(2) a phenolic compound, wherein the phenolic compound is a phenolic estrogen or a diphenyl having structure III as below,

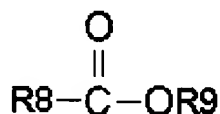
III



Wherein R7 = a direct connection (single bond) or a branched or unbranched alkene or alkane;

(3) a long chain fatty acid having structure IV below,

IV

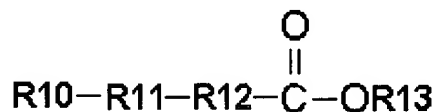


Wherein R8 is a saturated or unsaturated aliphatic chain comprising from 5 to 25 carbon atoms and R9 is a hydrogen or an aliphatic chain with 1-5 carbons;

(4)]

a peroxisome proliferator having structure V below,

V



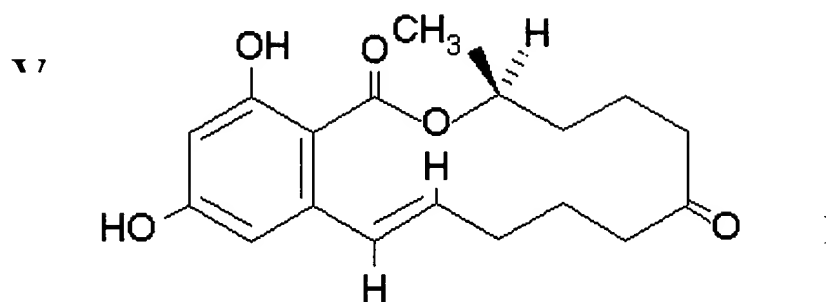
Wherein R10 is an aromatic ring or rings,

R11 is an O or S,

R12 is a branched or linear aliphatic chain comprising 1-8 carbons,

R13 is a hydrogen or an aliphatic chain comprising from 1 to 5 carbon atoms. [; and

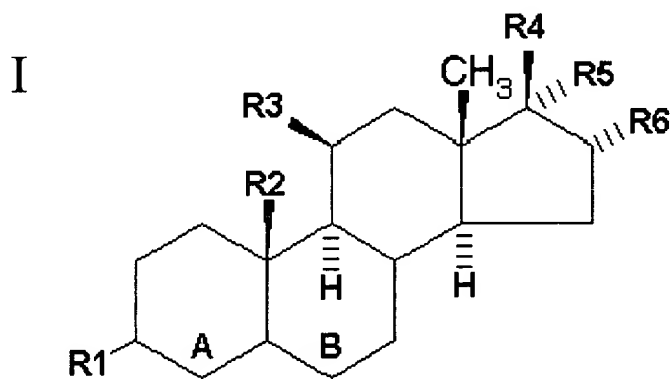
(5) the fungal steroid zearalenone having structure VI below,



12. (Twice Amended) A method of inducing disease resistance in a plant comprising applying to the surface of at least part of a plant capable of producing an isoflavone, a biologically effective amount of a composition comprising:

a) a nuclear receptor ligand, wherein said nuclear receptor ligand is [selected from the group consisting of:

(1) a steroid having structure I or structure II as below,



Wherein rings A, B have the same or different degrees of saturation, wherein

R1 = OH or O,

R2 = H or CH₃,

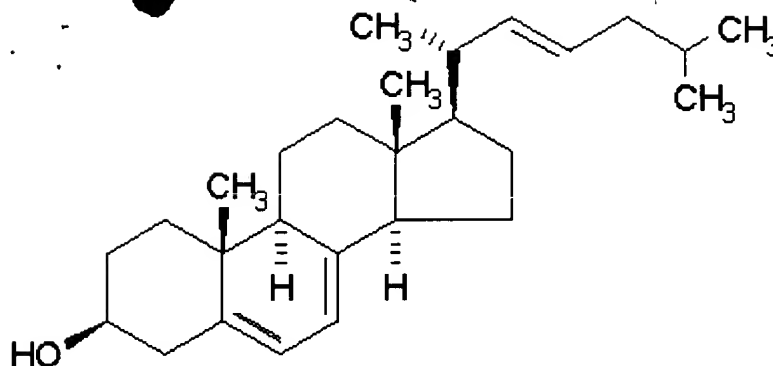
R3 = O, OH, or H,

R4 = O, OH, H, CO₂H, C(O)CH₂OH, or C(O)CH₃,

R5 = OH or H, and

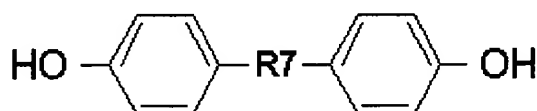
R6 = CH₃, OH or H;

II



(2) a phenolic compound, wherein the phenolic compound is a phenolic estrogen or a diphenyl having structure III as below,

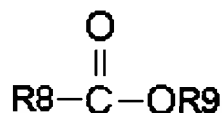
III



Wherein R7 = a direct connection (single bond) or a branched or unbranched alkene or alkane;

(3) a long chain fatty acid having structure IV below,

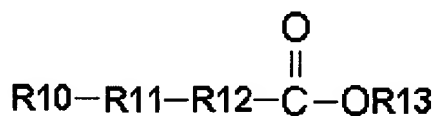
IV



Wherein R8 is a saturated or unsaturated aliphatic chain comprising from 5 to 25 carbon atoms and R9 is a hydrogen or an aliphatic chain with 1-5 carbons;

(4) a peroxisome proliferator having structure V below,

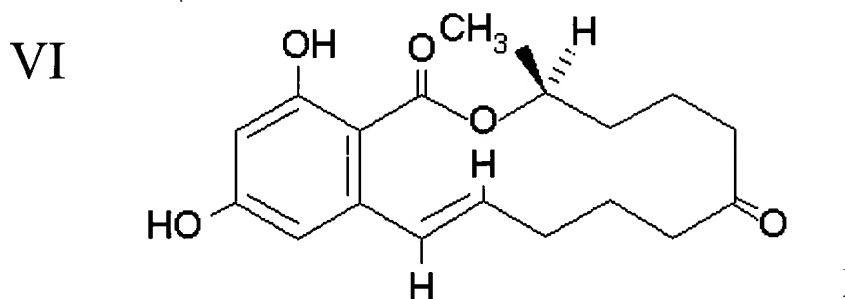
V



Wherein R10 is an aromatic ring or rings,
R11 is an O or S,

R12 is a branched or linear aliphatic chain comprising 1-8 carbons,
 R13 is a hydrogen or an aliphatic chain comprising from 1 to 5 carbon atoms; [and

(5) the fungal steroid zearalenone, having structure VI below,



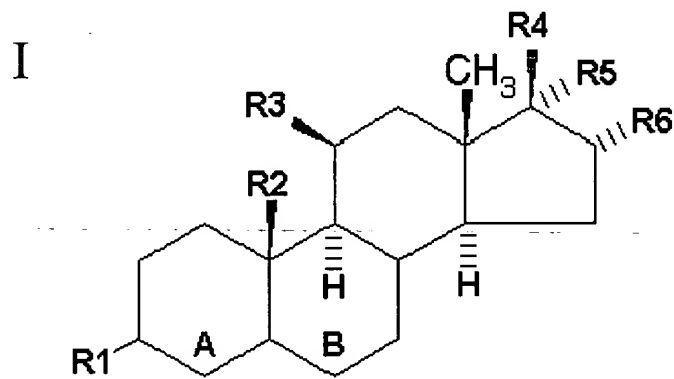
and

b) one or more compounds that enhance the release of isoflavones from a sugar conjugate, enhance the incorporation of aglycones into glyceollin, or enhance the release of isoflavones from a sugar conjugate and incorporation of aglycones into glyceollin.

21. (Twice Amended) A composition for inducing disease resistance in a plant or seed, comprising:

(a) one or more nuclear receptor ligands, wherein said nuclear receptor ligands are [selected from the group consisting of

(1) a steroid having structure I or structure II as below,

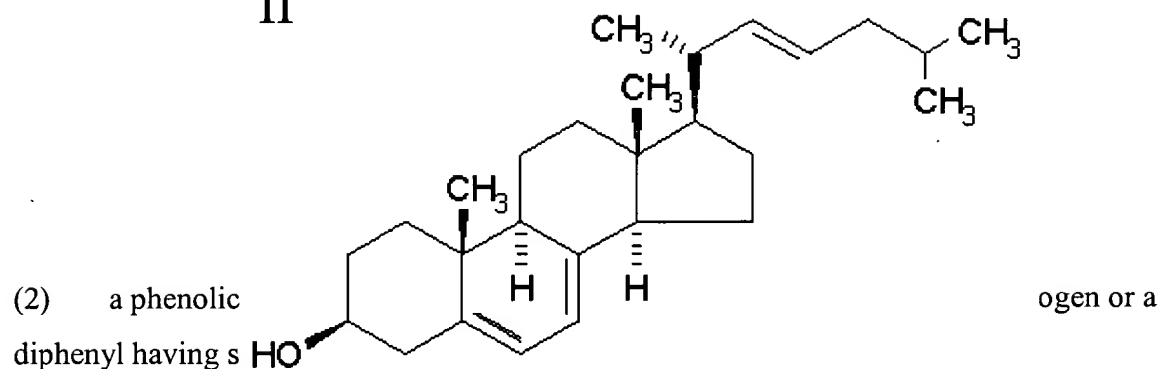


Wherein rings A, B have the same or different degrees of saturation,
 wherein

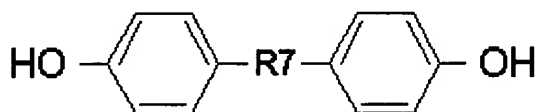
R1 = OH or O,
 R2 = H or CH₃,

$R3 = O, OH, \text{ or } H;$
 $R4 = O, OH, H \text{ or } CO_2H, C(O)CH_2OH \text{ or } C(O)CH_3$
 $R5 = OH \text{ or } H, \text{ and}$
 $R6 = CH_3, OH \text{ or } H;$

II



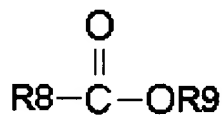
III



Wherein $R7 =$ a direct connection (single bond) or a branched or unbranched alkene or alkane;

(3) a long chain fatty acid having structure IV below,

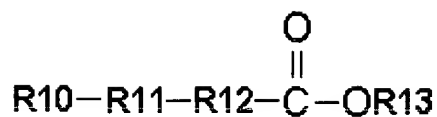
IV



Wherein $R8$ is a saturated or unsaturated aliphatic chain comprising from 5 to 25 carbon atoms and $R9$ is a hydrogen or an aliphatic chain with 1-5 carbons;

(4) a] peroxisome proliferators having structure V below,

V



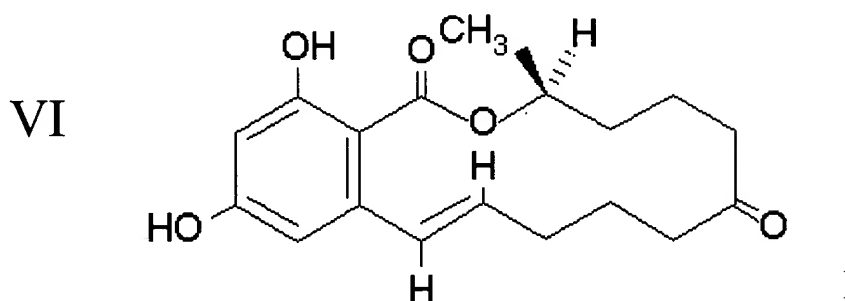
Wherein R10 is an aromatic ring or rings,

R11 is an O or S,

R12 is a branched or linear aliphatic chain comprising 1-8 carbons,

R13 is a hydrogen or an aliphatic chain comprising from 1 to 5 carbon atoms; [and

(5) the fungal steroid zearalenone, having structure VI below,



and

(b) one or more enhancing compounds which enhance the release of isoflavones from a sugar conjugate in the plant or seed, enhance incorporation of aglycones in the plant or seed into glyceollin, or enhance release of isoflavones from a sugar conjugate in the plant or seed and incorporation of aglycones in the plant or seed into glyceollin.